5 What is claimed is:

- 1. A method for treating or preventing MD in a patient, comprising administering to a patient in need thereof an effective amount of a JNK Inhibitor or a pharmaceutically acceptable salt, solvate or stereoisomer thereof.
- 2. A method for treating or preventing MD in a patient, comprising administering to a patient in need thereof an effective amount of a compound having the following formula:

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof,

15 wherein:

A is a direct bond, $-(CH_2)_a$, $-(CH_2)_bCH=CH(CH_2)_c$, or $-(CH_2)_bC\equiv C(CH_2)_c$;

 R_1 is aryl, heteroaryl or heterocycle fused to phenyl, each being optionally substituted with one to four substituents independently from R_3 ;

a is 1, 2, 3, 4, 5 or 6;

b and c are the same or different and at each occurrence independently 0, 1, 2, 3 or 4; d is at each occurrence 0, 1 or 2;

R₃ is at each occurrence independently halogen, hydroxy, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, substituted

aryl, arylalkyl, heterocycle, heterocycloalkyl, $-C(=O)OR_8$, $-OC(=O)R_8$, $-C(=O)NR_8R_9$, $-C(=O)NR_8OR_9$, $-SO_2NR_8R_9$, $-NR_8SO_2R_9$, -CN, $-NO_2$, $-NR_8R_9$, $-NR_8C(=O)R_9$, $-NR_8C(=O)(CH_2)_bOR_9$, $-NR_8C(=O)(CH_2)_bR_9$, $-O(CH_2)_bNR_8R_9$, or heterocycle fused to phenyl;

R₄ is alkyl, aryl, arylalkyl, heterocycle or heterocycloalkyl, each being optionally substituted with one to four substituents independently from R₃, or R₄ is halogen or hydroxy;

R₅, R₆ and R₇ are the same or different and at each occurrence independently hydrogen, alkyl, aryl, arylalkyl, heterocycle or heterocycloalkyl, wherein each of R₅, R₆ and R₇ are optionally substituted with one to four substituents independentlyfrom R₃; and R₈ and R₉ are the same or different and at each occurrence independently hydrogen, alkyl, aryl, arylalkyl, heterocycle, or heterocycloalkyl, or R₈ and R₉ taken together with the atom or atoms to which they are bonded form a heterocycle, wherein each of R₈, R₉, and R₈ and R₉ taken together to form a heterocycle are optionally substituted with one to four substituents independently from R₃.

20

15

10

3. A method for treating or preventing MD in a patient, comprising administering to a patient in need thereof an effective amount of a compound having the following formula:

$$\begin{array}{c|c} R_3 & R_4 & O \\ \hline R_1 & N & R_4 & R_6 \end{array}$$

25

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof,

wherein:

 R_1 is aryl or heteroaryl optionally substituted with one to four substituents independently from R_7 ;

5 R₂ is hydrogen;

30

R₃ is hydrogen or lower alkyl;

R₄ represents one to four optional substituents, wherein each substituent is the same or different and independently halogen, hydroxy, lower alkyl or lower alkoxy;

R₅ and R₆ are the same or different and independently -R₈, -(CH₂)_aC(=O)R₉, -(CH₂)_aC(=O)OR₉, -(CH₂)_aC(=O)NR₉R₁₀, -(CH₂)_aC(=O)NR₉(CH₂)_bC(=O)R₁₀, -(CH₂)_aNR₉C(=O)R₁₀, (CH₂)_aNR₁₁C(=O)NR₉R₁₀, -(CH₂)_aNR₉R₁₀, -(CH₂)_aOR₉, -(CH₂)_aSO_cR₉ or -(CH₂)_aSO₂NR₉R₁₀;

or R₅ and R₆ taken together with the nitrogen atom to which they are attached to form a heterocycle or substituted heterocycle;

15 R₇ is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, arylalkyl, heterocycle, heterocycloalkyl, -C(=O)OR₈, -OC(=O)R₈, -C(=O)NR₈R₉, -C(=O)NR₈OR₉, -SO_cNR₈R₉, -NR₈SO_cR₉, -NR₈R₉, -NR₈C(=O)R₉, -NR₈C(=O)(CH₂)_bOR₉, -NR₈C(=O)(CH₂)_bNR₈R₉, or heterocycle fused to phenyl;

R₈, R₉, R₁₀ and R₁₁ are the same or different and at each occurrence independently hydrogen, alkyl, substituted alkyl, aryl, arylalkyl, heterocycle or heterocycloalkyl;

or R₈ and R₉ taken together with the atom or atoms to which they are attached to form a heterocycle;

- a and b are the same or different and at each occurrence independently 0, 1, 2, 3 or 4; andc is at each occurrence 0, 1 or 2.
 - 4. A method for treating or preventing MD in a patient, comprising administering to a patient in need thereof an effective amount of a compound having the following formula:

10

15

$$\begin{array}{c|c}
1 & 2 \\
 \hline
 N & R_0 \\
 \hline
 8 & 7 & 6 & 5
\end{array}$$

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof,

wherein R_0 is -O-, -S-, -S(O)-, -S(O)₂-, NH or -CH₂-;

the compound being (i) unsubstituted, (ii) monosubstituted and having a first substituent, or (iii) disubstituted and having a first substituent and a second substituent;

the first or second substituent, when present, is at the 3, 4, 5, 7, 8, 9, or 10 position, wherein the first and second substituent, when present, are independently alkyl, hydroxy, halogen, nitro, trifluoromethyl, sulfonyl, carboxyl, alkoxycarbonyl, alkoxy, aryl, aryloxy, arylalkyloxy, arylalkyl, cycloalkylalkyloxy, cycloalkyloxy, alkoxyalkyl, alkoxyalkoxy, aminoalkoxy, mono-alkylaminoalkoxy, di-alkylaminoalkoxy, or a group represented by formula (a), (b), (c), (d), (e), or (f):

wherein R₃ and R₄ are taken together and represent alkylidene or a heteroatomcontaining cyclic alkylidene or R₃ and R₄ are independently hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, aryloxyalkyl, alkoxyalkyl, aminoalkyl, monoalkylaminoalkyl, or di-alkylaminoalkyl; and

R₅ is hydrogen, alkyl, cycloalkyl, aryl, arylalkyl, cycloalkylalkyl, alkoxy, alkoxyalkyl, alkoxycarbonylalkyl, amino, mono-alkylamino, di-alkylamino, arylamino, arylalkylamino, cycloalkylamino, aminoalkyl, mono-alkylaminoalkyl, or di-alkylaminoalkyl.

- 5. The method of claim 2 wherein A is a direct bond.
- 15 6. The method of claim 2 wherein A is $-(CH_2)_{a}$.
 - 7. The method of claim 2 wherein A is $-(CH_2)_bCH=CH(CH_2)_c$.
 - 8. The method of claim 2 wherein A is $-(CH_2)_bC \equiv C(CH_2)_c$.
 - 9. The method of claim 2 wherein the compound has the following formula:

20

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof,

wherein:

A is a direct bond, $-(CH_2)_a$, $-(CH_2)_bCH=CH(CH_2)_c$, or $-(CH_2)_bC\equiv C(CH_2)_c$;

R₁ is aryl, heteroaryl or heterocycle fused to phenyl, each being optionally substituted with one to four substituents independently from R₃;

R₂ is -R₃, -R₄, -(CH₂)_bC(=O)R₅, -(CH₂)_bC(=O)OR₅, -(CH₂)_bC(=O)NR₅R₆, -(CH₂)_bC(=O)NR₅(CH₂)_cC(=O)R₆, -(CH₂)_bNR₅C(=O)R₆, -(CH₂)_bNR₅C(=O)NR₆R₇, -(CH₂)_bNR₅R₆, -(CH₂)_bOR₅, -(CH₂)_bSO_dR₅ or -(CH₂)_bSO₂NR₅R₆; a is 1, 2, 3, 4, 5 or 6;

b and c are the same or different and at each occurrence independently 0, 1, 2, 3 or 4;d is at each occurrence 0, 1 or 2;

 R_3 is at each occurrence independently halogen, hydroxy, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, arylalkyl, heterocycle, heterocycloalkyl, $-C(=O)OR_8$, $-OC(=O)R_8$, $-C(=O)NR_8R_9$, $-C(=O)NR_8OR_9$, $-SO_2NR_8R_9$, $-NR_8SO_2R_9$, -CN, $-NO_2$, $-NR_8R_9$, $-NR_8C(=O)R_9$, $-NR_8C(=O)(CH_2)_bOR_9$, $-NR_8C(=O)(CH_2)_bR_9$, $-O(CH_2)_bNR_8R_9$, or heterocycle fused to phenyl;

R₄ is alkyl, aryl, arylalkyl, heterocycle or heterocycloalkyl, each being optionally substituted with one to four substituents independently from R₃, or R₄ is halogen or hydroxy;

R₅, R₆ and R₇ are the same or different and at each occurrence independently hydrogen, alkyl, aryl, arylalkyl, heterocycle or heterocycloalkyl, wherein each of R₅, R₆ and R₇ are optionally substituted with one to four substituents independently from R₃; and

R₈ and R₉ are the same or different and at each occurrence independently hydrogen, alkyl, aryl, arylalkyl, heterocycle, or heterocycloalkyl, or R₈ and R₉ taken together with the atom or atoms to which they are bonded form a heterocycle, wherein each of R₈, R₉, and R₈ and R₉ taken together to form a heterocycle are optionally substituted with one to four substituents independently from R₃.

10. The method of claim 2 wherein the compound has the following formula:

15

25

10

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof,

wherein:

20 A is a direct bond, $-(CH_2)_a$, $-(CH_2)_bCH=CH(CH_2)_c$, or $-(CH_2)_bC \equiv C(CH_2)_c$;

 R_1 is aryl, heteroaryl or heterocycle fused to phenyl, each being optionally substituted with one to four substituents independently from R_3 ;

R₂ is -R₃, -R₄, -(CH₂)_bC(=O)R₅, -(CH₂)_bC(=O)OR₅, -(CH₂)_bC(=O)NR₅R₆, -(CH₂)_bC(=O)NR₅(CH₂)_cC(=O)R₆, -(CH₂)_bNR₅C(=O)R₆, -(CH₂)_bNR₅C(=O)NR₆R₇, -(CH₂)_bNR₅R₆, -(CH₂)_bOR₅, -(CH₂)_bSO_dR₅ or -(CH₂)_bSO₂NR₅R₆,

a is 1, 2, 3, 4, 5 or 6;

b and c are the same or different and at each occurrence independently 0, 1, 2, 3 or 4;
d is at each occurrence 0, 1 or 2;

- R₃ is at each occurrence independently halogen, hydroxy, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, arylalkyl, heterocycle, heterocycloalkyl, -C(=O)OR₈, -OC(=O)R₈, -C(=O)NR₈R₉, -C(=O)NR₈OR₉, -SO₂NR₈R₉, -NR₈SO₂R₉, -CN₃, -NO₂, -NR₈R₉, -NR₈C(=O)(CH₂)_bOR₉, -NR₈C(=O)(CH₂)_bNR₈R₉, or heterocycle fused to phenyl;
- 10 R₄ is alkyl, aryl, arylalkyl, heterocycle or heterocycloalkyl, each being optionally substituted with one to four substituents independently from R₃, or R₄ is halogen or hydroxy;

20

 R_5 , R_6 and R_7 are the same or different and at each occurrence independently hydrogen, alkyl, aryl, arylalkyl, heterocycle or heterocycloalkyl, wherein each of R_5 , R_6 and R_7 are optionally substituted with one to four substituents independently from R_3 ; and

 R_8 and R_9 are the same or different and at each occurrence independently hydrogen, alkyl, aryl, arylalkyl, heterocycle, or heterocycloalkyl, or R_8 and R_9 taken together with the atom or atoms to which they are bonded form a heterocycle, wherein each of R_8 , R_9 , and R_9 taken together to form a heterocycle are optionally substituted with one to four substituents independently from R_3 .

11. The method of claim 2 wherein the compound has the following formula:

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof.

25 12. The method of claim 3, wherein the compound has the following formula:

$$R_1$$
 N
 N
 R_5
 R_6

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof,

wherein:

5

 R_1 is aryl or heteroaryl optionally substituted with one to four substituents independently from R_7 ;

10 R₂ is hydrogen;

R₃ is hydrogen or lower alkyl;

R₄ represents one to four optional substituents, wherein each substituent is the same or different and independently halogen, hydroxy, lower alkyl or lower alkoxy;

R₅ and R₆ are the same or different and independently -R₈, -(CH₂)_aC(=O)R₉, -(CH₂)_aC(=O)OR₉, -(CH₂)_aC(=O)NR₉R₁₀, -(CH₂)_aC(=O)NR₉(CH₂)_bC(=O)R₁₀, -(CH₂)_aNR₉C(=O)R₁₀, (CH₂)_aNR₁₁C(=O)NR₉R₁₀, -(CH₂)_aNR₉R₁₀, -(CH₂)_aOR₉, -(CH₂)_aSO_cR₉ or -(CH₂)_aSO₂NR₉R₁₀;

or R₅ and R₆ taken together with the nitrogen atom to which they are attached to form a heterocycle or substituted heterocycle;

R₇ is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, arylalkyl, heterocycle, heterocycloalkyl, -C(=O)OR₈, -OC(=O)R₈, -C(=O)NR₈R₉, -C(=O)NR₈OR₉, -SO_cNR₈R₉, -NR₈SO_cR₉, -NR₈R₉, -NR₈C(=O)R₉, -NR₈C(=O)(CH₂)_bOR₉, -NR₈C(=O)(CH₂)_bNR₈R₉, or heterocycle fused to phenyl;

- 5 R₈, R₉, R₁₀ and R₁₁ are the same or different and at each occurrence independently hydrogen, alkyl, substituted alkyl, aryl, substituted aryl, arylalkyl, heterocycle, heterocycloalkyl;
 - or R₈ and R₉ taken together with the atom or atoms to which they are attached to form a heterocycle;
- a and b are the same or different and at each occurrence independently 0, 1, 2, 3 or 4; and c is at each occurrence 0, 1 or 2.
 - 13. The method of claim 3, wherein the compound has the following formula:

20

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof,

wherein:

 R_1 is anylor heteroaryl optionally substituted with one to four substituents independently from R_7 ;

R₂ is hydrogen;

R₃ is hydrogen or lower alkyl;

R₄ represents one to four optional substituents, wherein each substituent is the same or different and independently halogen, hydroxy, lower alkyl or lower alkoxy;

25 R₅ and R₆ are the same or different and independently -R₈, -(CH₂)_aC(=O)R₉, -(CH₂)_aC(=O)OR₉, -(CH₂)_aC(=O)NR₉R₁₀, -(CH₂)_aC(=O)NR₉(CH₂)_bC(=O)R₁₀, -(CH₂)_aNR₉C(=O)R₁₀, (CH₂)_aNR₁₁C(=O)NR₉R₁₀, -(CH₂)_aNR₉R₁₀, -(CH₂)_aOR₉, -(CH₂)_aSO_cR₉ or -(CH₂)_aSO₂NR₉R₁₀;

or R₅ and R₆ taken together with the nitrogen atom to which they are attached to form a heterocycle or substituted heterocycle;

 R_7 is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, arylalkyl, heterocycle, heterocycloalkyl, $-C(=O)OR_8$, $-OC(=O)R_8$, $-C(=O)NR_8R_9$,

10 -C(=O)NR₈OR₉, -SO_cR₈, -SO_cNR₈R₉, -NR₈SO_cR₉, -NR₈R₉, -NR₈C(=O)R₉, -NR₈C(=O)(CH₂)_bOR₉, -NR₈C(=O)(CH₂)_bR₉, -O(CH₂)_bNR₈R₉, or heterocycle fused to phenyl;

R₈, R₉, R₁₀ and R₁₁ are the same or different and at each occurrence independently hydrogen, alkyl, aryl, arylalkyl, heterocycle, heterocycloalkyl;

or R₈ and R₉ taken together with the atom or atoms to which they are attached to form a heterocycle;

a and b are the same or different and at each occurrence independently 0, 1, 2, 3 or 4; and c is at each occurrence 0, 1 or 2.

20 14. The method of claim 3, wherein the compound has the following formula:

$$R_7$$
 N
 N
 R_6
 R_6

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof,

wherein:

 R_1 is aryl or heteroaryl optionally substituted with one to four substituents independently from R_7 ;

R₂ is hydrogen;

5 R₃ is hydrogen or lower alkyl;

R₄ represents one to four optional substituents, wherein each substituent is the same or different and independently halogen, hydroxy, lower alkyl or lower alkoxy;

 R_5 and R_6 are the same or different and independently $-R_8$, $-(CH_2)_aC(=O)R_9$, $-(CH_2)_aC(=O)OR_9$, $-(CH_2)_aC(=O)NR_9R_{10}$, $-(CH_2)_aC(=O)NR_9(CH_2)_bC(=O)R_{10}$, $-(CH_2)_aNR_9C(=O)R_{10}$, $-(CH_2)_aNR_{11}C(=O)NR_9R_{10}$, $-(CH_2)_aNR_9R_{10}$, $-(CH_2)_aSO_cR_9$ or $-(CH_2)_aSO_2NR_9R_{10}$;

or R₅ and R₆ taken together with the nitrogen atom to which they are attached to form a heterocycle;

R₇ is at each occurrence independently halogen, hydroxy, cyano, nitro, carboxy, alkyl, alkoxy, haloalkyl, acyloxy, thioalkyl, sulfinylalkyl, sulfonylalkyl, hydroxyalkyl, aryl, arylalkyl, heterocycle, heterocycloalkyl, -C(=O)OR₈, -OC(=O)R₈, -C(=O)NR₈R₉, -C(=O)NR₈OR₉, -SO_cNR₈R₉, -NR₈SO_cR₉, -NR₈R₉, -NR₈C(=O)R₉, -NR₈C(=O)(CH₂)_bOR₉, -NR₈C(=O)(CH₂)_bNR₈R₉, or heterocycle fused to phenyl;

20 R₈, R₉, R₁₀ and R₁₁ are the same or different and at each occurrence independently hydrogen, alkyl, substituted alkyl, aryl, arylalkyl, heterocycle, heterocycloalkyl;

or R₈ and R₉ taken together with the atom or atoms to which they are attached to form a heterocycle;

a and b are the same or different and at each occurrence independently 0, 1, 2, 3 or 4; and c is at each occurrence 0, 1 or 2.

- 15. The method of claim 4, wherein R_0 is -O-.
- 16. The method of claim 4, wherein R_0 is -S-.

30

25

- 5 17. The method of claim 4, wherein R_0 is-S(O)-.
 - 18. The method of claim 4, wherein R_0 is $-S(O)_2$.
 - 19. The method of claim 4, wherein R_0 is NH.

- 20. The method of claim 4, wherein R_0 is CH_2 -.
- 21. The method of claim 4, wherein the compound has the following formula:

15

20

or a pharmaceutically acceptable salt, solvate or stereoisomer thereof.

- 22. The method of claim 1, further comprising administering an effective amount of a steroid, a light sensitizer, an integrin, an antioxidant, an interferon, a xanthine derivative, a growth hormone, a neutrotrophic factor, a regulator of neovascularization, an anti-VEGF antibody, a prostaglandin, an antibiotic, a phytoestrogen, an anti-inflammatory compound, an IMiD[®], a SelCID[®], an antiangiogenesis compound, or a combination thereof.
- 23. The method of claim 2, further comprising administering an effective amount of a steroid, a light sensitizer, an integrin, an antioxidant, an interferon, a xanthine derivative, a growth hormone, a neutrotrophic factor, a regulator of neovascularization, an anti-VEGF antibody, a prostaglandin, an antibiotic, a phytoestrogen, an anti-inflammatory compound, an IMiD[®], a SelCID[®], an antiangiogenesis compound, or a combination thereof.

- 5 24. The method of claim 3, further comprising administering an effective amount of a steroid, a light sensitizer, an integrin, an antioxidant, an interferon, a xanthine derivative, a growth hormone, a neutrotrophic factor, a regulator of neovascularization, an anti-VEGF antibody, a prostaglandin, an antibiotic, a phytoestrogen, an anti-inflammatory compound, an IMiD[®], a SelCID[®], an antiangiogenesis compound, or a combination thereof.
 - 25. The method of claim 4, further comprising administering an effective amount of a steroid, a light sensitizer, an integrin, an antioxidant, an interferon, a xanthine derivative, a growth hormone, a neutrotrophic factor, a regulator of neovascularization, an anti-VEGF antibody, a prostaglandin, an antibiotic, a phytoestrogen, an anti-inflammatory compound, an IMiD[®], a SelCID[®], an antiangiogenesis compound, or a combination thereof.
 - 26. The method of claim 1, wherein the MD is wet MD.

- 27. The method of claim 1, wherein the MD is dry MD.
- 28. The method of claim 1, further comprising the administration of verteporfin.
- 20 29. The method of claim 22, wherein antiangiogenesis compound is thalidomide.
 - 30. The method of claim 22, wherein the anti-VEGF antibody is rhuFab.
 - 31. The method of claim 22, wherein the the xanthine derivative is pentoxifylline.
 - 32. The method of claim 22, wherein the interferon is interferon- 2α .
- 33. The method of claim 1, further comprising administering laser photocoagulation25 therapy.
 - 34. The method of claim 1 further comprising administering photodynamic therapy.
 - 35. A method for treating or preventing ARM, CNVM, PED or atrophy of RPE, which comprises administering to a patient in need of such treatment or prevention an

5 effective amount of a JNK inhibitor or a pharmaceutically acceptable salt, solvate or stereoisomer thereof.

10

15

- 36. The method of claim 35, further comprising administering an effective amount of a steroid, a light sensitizer, an integrin, an antioxidant, an interferon, a xanthine derivative, a growth hormone, a neutrotrophic factor, a regulator of neovascularization, an anti-VEGF antibody, a prostaglandin, an antibiotic, a phytoestrogen, an anti-inflammatory compound or an antiangiogenesis compound.
- 37. A pharmaceutical composition comprising an effective amount of a JNK Inhibitor and a steroid, a light sensitizer, an integrin, an antioxidant, an interferon, a xanthine derivative, a growth hormone, a neutrotrophic factor, a regulator of neovascularization, an anti-VEGF antibody, a prostaglandin, an antibiotic, a phytoestrogen, an antiangiogenesis compound, or a combination thereof.